the portion of jaw in front, including the symphysis mentis, and extending four-fifths of an inch to the right side; but little hemorrhage followed the operation, and this entirely of a venous character; the secretion of pus diminished immediately, and ceased entirely in a few days.

At this time, the boy has perfect use of the jaw; the articulation is a little larger and higher than usual, *but a new bone has formed from the articulation on the left side to the point on the right side where the necrosed portion was separated from the healthy bone,* with the exception of the want of teeth. The new bone is as serviceable, and, apparently, as strong as the old one, and having as perfect motion in the articulation; within a week, a tooth has shown itself on the left side, corresponding to the lateral incision, but it is small, and not very firmly fixed, and has the appearance of being an appendage to the periosteum, rather than that of a tooth with a regular socket.

I exhibited the removed maxilla, at the annual meeting of the Iowa State Medical Society, to many physicians and surgeons of the State. It is a perfect jaw, not splintered or atrophied at all, excepting slight absorption of the condyle; it had very much the appearance of a bone just taken from the macerating tub, after six weeks' exposure to heat and moisture. The new bone, I presume, was secreted by the periosteum of the old, during its struggle between life and death; and, in this beautiful manner, a most admirable substitute has been provided for a necrosed portion of the body.

The horizontal position of the ramus in the young subject facilitated very much the extraction of the bone without external section, and permitted it to be withdrawn in a manner that would have been impracticable with the adult.

The boy is now in good health, and masticates his food without difficulty; in fact, the only inconvenience that he experiences is from being compelled to chew upon one side alone.

Burlington, Ia., *August* 18, 1854.

Art. X.—*Strangulated Inguinal Hernia, the Testicle on the ruptured side never having descended from the Pelvis; Operation; Cure.* By F. M. Robertson, M. D., Lecturer on Obstetrics in the Charleston Summer Institute.

The subject of this case was a negro man of Mr. H. W., of this city, stout, well made, muscular, and aged about thirty years. Had previously enjoyed uninterrupted good health. The strangulation occurred on the morning of September 12, 1853. He was not aware that the intestine had ever descended before, as he had never observed it previous to the present occasion. Violent symptoms exhibited themselves about daylight. The pain was intense, and the vomiting incessant. When my friend, Dr. Fitch, the family physician, saw him, there was extreme tenderness over the tumour, in addition to the general agony caused by the strangulation. This local tenderness was so great, that the tumour could only be handled while he was under the anæsthetic influence of chloroform. Every effort was made by Dr. Fitch, assisted by Dr. Davega, to reduce the hernia by the taxis, but to no purpose. He was kept in a profound state of anæsthesia for more than an hour, and, although the relaxation of the muscular system was complete, yet the strangulation was not relieved in the slightest degree.

About half-past 10 o'clock I received a message from Dr. Fitch, requesting me

to meet him at 12 o'clock M., for the purpose of operating, in case the symptoms continued to increase in violence, and all efforts at reduction, by the usual procedures, should fail. I saw the case at 12 o'clock. On examination, I found a large painful tumour occupying the left inguinal canal, increasing in size as it emerged from the external ring, and mounting up over the ring. It did not descend into the scrotum, but reached only a short distance below the pubic bone, towards what appeared to be the rudiments of the left scrotal cavity. It was now ascertained that no testicle had ever made its appearance on that side. There was no development of the left side of the scrotum. Whatever existed primitively, had become completely atrophied. He stated that the testicle on that side, to his knowledge, had never made its appearance even in the inguinal canal, as he had never observed any protrusion or swelling in that region before the sudden seizure on that morning. The tumor was tense, and extremely painful—prominent, and had the appearance of being partially divided into three parts, by transverse bands.

Feeling satisfied that no good could result from further delay, as all reasonable and appropriate means had been judiciously and faithfully used, and the symptoms of fatal strangulation still persisting, we resolved to operate.

The patient was placed upon a table, in the usual position, and brought completely under the anæsthetic influence of chloroform; and, assisted by Drs. Fitch, Kinlock, and Davega, I proceeded to operate. The integuments over the tumour were pinched up, by Dr. Kinlock, between the index finger and thumb of each hand, in a direction transverse to the axis of the inguinal canal, which I transfixed with a straight bistoury, with the back to the tumour, and cut from within outwards, in the direction of the canal. After enlarging the incision, both above and below, I commenced a careful dissection, as the relations of the parts were necessarily anomalous, in consequence of the non-descent of the testicle. After dividing the tissues down to the sac, the tumour presented a multilocular appearance, in consequence of the transverse bands. Those which seemed simply to adhere to it, were divided; but several digital projections, resembling the end of the finger of a glove, arose from the sac—all, however, communicating with the main cavity. In colour and appearance, the sac resembled the tunica vaginalis, as seen in the operation for hydrocele. A small point was pinched up with the forceps, and divided with a pair of scissors. A considerable quantity of blood-coloured serum escaped. The sac was laid freely open, which exposed a knuckle of the small intestine, occupying the canal and extending below the external ring, highly congested, and of the colour of a half-ripe mulberry; but no spots of mortification could be observed. The stricture at the external ring was divided, and the finger passed into the canal, and, with some effort, above the internal ring; no testicle was encountered in the exploration, though the finger was, with some difficulty, passed above the internal ring, which was dilated without the use of cutting instruments, and the protruded intestine returned without further difficulty. The sac was left in *situ* (in fact, it appeared to be kept in its position by adhesions), and the edges of the wound brought together by three points of interrupted suture and adhesive straps. A compress and spica bandage completed the dressing.

The patient had been kept in a profound state of anæsthesia during the operation, and, as he appeared to be in a good condition, as evidenced by his respiration and circulation, he was placed in a comfortable position on the operating table, where he remained, as though nothing had occurred, in a pleasant slumber. Ordered that he should not be aroused, but, in case he awoke, to have two grains of opium.

6 *o'clock P. M.* Continued to sleep for some hours after the operation. Took the opium, but threw it up, and was disposed to vomit all liquids that were taken, even cold water. Complained of great soreness in the region of the hernia, but no severe pain. He was not aware that he had been operated on, as he had not been informed of the fact since awaking to consciousness. He was under the impression that a simple compress and bandage had been placed on him during his sleeping condition. Directed perfect quiet, and a full anodyne.

13*th*, 9 *o'clock A. M.* Rested well during the night. No more nausea or vomiting; passed urine during the night; no action from the bowels; pulse 62, and regular; skin moist, and of the normal temperature. Complains very much of soreness around the wound. No tympanitis, and very little tenderness on pressure, except in the immediate vicinity of the inguinal canal. Could take a full inspiration without any increase of pain or impediment in the play of the abdominal muscles. He had a troublesome cough, which had existed some days previous to the accident. It was now annoying and painful. Ordered an anodyne expectorant, gruel, if desired, and iced water; an enema at 4 o'clock P. M., if the bowels do not act before. Appears cheerful, and expresses himself greatly relieved, in comparison to his sufferings yesterday morning.

6 *o'clock P. M.* Had a comfortable day. Vomited only once after the morning visit. Abdominal exploration gave the same condition as at last visit. Enema acted well. Pulse 70, and regular; skin moist, and of the normal temperature. Directed a tablespoonful of castor-oil at bedtime; to be repeated at daylight, if it does not operate by that time.

14*th*, 9 *o'clock A. M.* The oil acted three times, without producing any pain; fecal discharge natural in character. Skin moist, and normal in temperature; pulse 66; tongue moist—white fur in the centre, natural around the edges; no tympanitis or tenderness of the abdomen on pressure; soreness in the vicinity of the canal less; cough better; upon full inspiration, free play of the abdominal muscles, without pain. Is anxious to sit up. Ordered to retain the recumbent posture. Continue expectorant, gruel, and iced water.

6 *o'clock P. M.* Has had one more feculent operation. Pulse 61; other symptoms the same as at morning visit. Gruel, arrowroot, and iced water.

15*th*, 9 *o'clock A. M.* General condition the same as last evening. Removed the dressings. Union by the first intention complete, except a small portion of the lower part of the wound, which was designedly left open. Some tenderness on pressure along the course of the canal. Reapplied the dressings, compress, and bandage. Allowed to assume the sitting posture occasionally during the day. Chicken-soup.

16*th*, 9 *o'clock A. M.* Condition the same as yesterday.

17*th*, 9 *o'clock A. M.* Dressed the wound. Adhesion complete. Patient improving in all respects. From this time, his recovery was rapid. No suppuration whatever from the wound, which was completely cicatrized on the 27th of September. He has been permitted to take gentle exercise from day to day, wearing a compress and bandage. From appearances around the external ring, I am under the impression that there is a complete obliteration of that opening. The tumefaction, in the direction of the canal, which was considerable for some days after the operation, has gradually diminished, and now presents a slight indurated ridge along the course of the canal.

On the 3d of October, as far as it is possible to judge, the inguinal canal appears to be completely obliterated; but, as a judicious precaution, a truss with a soft pad was applied. This was soon thrown aside, and no inconvenience was experienced afterwards.